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REPTILES AND AMPHIBIANS COLLECTED IN THE WICHITA MTS., COMANCHE COUNTY, OKLAHOMA[1]

On several different occasions I have made small collections in the Wichita Mountains, Comanche County, Oklahoma. All of these specimens have come from a region which lies within the Wichita National Forest and Game Preserve; this preserve extends from about 3½ miles to about 15 miles northwest of Cache, Oklahoma; it is of irregular outline, but roughly it is about 17 miles from east to west. All of the specimens representing the species listed are in the collections of the University of Oklahoma

1 Contribution from the Zoölogical Laboratory of the University of Oklahoma, Second Series, No. 73.

Museum of Zoology. It is thought that as there are so few records from Oklahoma this list may be of interest.

1. *Bufo woodhousii* Girard
2. *Acris gryllus* (LeConte)
3. *Rana sphenocephala* (Cope)
4. *Crotaphytus collaris collaris* (Say)
5. *Sceloporus undulatus thayerii* (B. & G.)
6. *Sceloporus undulatus undulatus* (Latreille)
7. *Phrynosoma cornutum* (Harlan)
8. *Eumeces anthracinus* (Baird)
9. *Eumeces fasciatus* (Linné)
10. *Eumeces obsoletus* (B. & G.)
11. *Masticophis flagellum flavigularis* (Hallowell)
12. *Coluber constrictor flaviventris* (Say)
13. *Pituophis sayi* (Schlegel)
14. *Natrix fasciata confluens* Blanchard
15. *Natrix rhombifera* (Hallowell)
16. *Natrix sipedon transversa* (Hallowell)
17. *Storeria dekayi* (Holbrook)
18. *Thamnophis proximus* (Say)
19. *Sistrurus catenatus catenatus* (Raf.)
20. *Crotalus atrox atrox* (B. & G.)
21. *Chelydra serpentina* (Linné)

A. I. ORTENBURGER

Museum of Zoology, Univ. Oklahoma, Norman, Okla.

NOTES ON HAWAIIAN FISH NAMES

Quoting my notes on *Rooseveltia* and *Propoma*, David Starr Jordan, in Copeia, No. 150, January 25,

1926, pp. 100–101, still contends it "is unsafe to unite species from widely separated localities without comparison of specimens." There is however, so little question to my mind about the identity of *Serranus brighami* Seale and *Rooseveltia aloha* Jordan and Snyder, that the latter never even was worth much as a guess. With the full series of *Apsilus zonatus* I have examined, there are equally no grounds that *Serrannus brighami* is distinct. I might add that I have compared examples of *Gonorhynchus gonorynchus* (Linne), from both Natal, South Africa and Honolulu, Hawaii, and find that both are the same species. They, moreover, easily over-reach the alleged characters for *Gonorhynchus moseleyi* Jordan and Snyder, a purely nominal species which has been described from a widely separated locality without comparison of specimens! Many other instances of this habit have made their way into the Hawaiian ichthyfauna, but space forbids their mention here.

HENRY W. FOWLER

Academy of Natural Science,
Philadelphia, Pa.

NOTE ON *PARACANTHURUS* BLEEKER

In Naturls. Tijds. Dierls., 1, 1863, p. 254, I find this generic name as "*Paracanthurus hepatus* Blkr.—*Acanthurus hepatus* Bl.", also in the same journal vol. 2, 1865, pp. 182 to 193 and 270 to 293; Faun. Madagascar., Pollen et Van Dam, 4, 1874, p. 97;

Arch. Neerl. Sci. Nat., 13, 1878, p. 51. Apparently the name is without diagnosis but with very distinct monotype, *Acanthurus hepatus* (non Linné) Schneider. This is a very handsome Indo-Pacific tang, readily distinguished from *Hepatus* by the presence of but two or three soft ventral rays. It thus has priority over *Colocopus* Gill, Proc. U. S. Nat. Mus., 7, 1884–1885, p. 279, type *Colocopus lambdurus* Gill—*Acanthurus hepatus* (non Linne) Schneider. The only species then would be *Paracanthurus lambdurus* Gill.

HENRY W. FOWLER

Academy of Natural Science
Philadelphia, Pa.

THE NAME OF THE BROOK TROUT OF EUROPE

This case is treated fully in Opinion 20 of the International Commission of Zoological Nomenclature.

In naming the European trout, Linnaeus (Syst. Nat. Ed. 10, 1, 308), in 1758 gave names to three supposed species of European trout. These were the Swedish gray trout (*Salmo eriox*) the Sea-run trout (*Salmo trutta*) and the brook trout (*Salmo fario*). All three are now regarded as a single species, and, in this decision, the name chosen by the first author who recognized their identity should be retained. In this case, the name *Salmo fario* is in common use. *Salmo eriox* has line priority. As Collett in 1875, recognized the unity of these forms, under the name of *Salmo eriox*, it was decided that "this name must stand unless it can be shown that somebody else made a different selection before 1875."

Mr. Carl L. Hubbs shows that such a choice had been already made. In 1862, Widegren (Ofvers. Vetensk. Akad. Forhandl XIX, p. 560), asserted that these names *eriox*, *trutta*, *fario*, and *carpio* L. were all based on one species which assumes different appearances in diverse types of environment. For this species he retained the name *Salmo trutta*.

If current writers are correct in uniting these forms, the species under the rules must stand as *Salmo trutta*, unless some earlier author has reached a similar conclusion prior to Widegren.

DAVID STARR JORDAN

Stanford University, California.

THE HABITS OF *SMINTHILLUS LIMBATUS*

During two summers at the Harvard Biological Station at Soledad, in southern Cuba, an especial endeavor was made to investigate the habits of this tiny frog. The following observations are admittedly incomplete, but I believe that they indicate sufficiently the main facts in the case.

In the months of July and August the animals are scattered in the thickets and hillsides near Soledad, especially in regions of limestone outcrops. They were found in three such localities at distances of a mile from each other. They were most common in the "Seborucal" a very rocky patch of ground covered with tangled vegetation, out of which rise taller trees, remnants of the virgin forest.

On morning following an afternoon or night rain, the choruses can be heard. The note is "tip tip tippy tippy tippy" rather faint but of fair carrying power.

The male usually calls from about a foot above the ground, on a plant or a rock. On several occasions females seemed to be moving towards the calling male.

The animals seldom jump unless disturbed. Their progress is a slow stealthy walk, the limbs moving alternately.

I saw only one in the open at night, and heard the note only once at night, and that was in bright moonlight, so that it is practically diurnal.

Apparently during the dry season the animals hibernate, gathering together in numbers under stones in damp places. In the Seborucal at Soledad they can be easily found at this time under stones in the bed of a little stream which at this season is dry. In the summer this stream is a permanent affair and no *Sminthillus* were seen within ten yards of it. Yet on April 8, 1925, Mr. Salt collected ten specimens from under one stone in its bed, and Dr. Barbour has told me of taking as many as a hundred there in one day. During the summer the most I ever got in a single morning of hard work was eight. About 65 specimens were taken in the course of two summers.

The male is slightly smaller than the female and has a larger tympanum.

The breeding habits are in general similar to those of *Eleutherodactylus*. Dissection shows that large yolked eggs are laid and that these must be very few in number, since a female has only about four in the oviducts.

On August 4, 1924, I found a single frog egg, about 2 mm. in diameter under vegetable debris in a rock cavity in the Seborucal. This egg had developed by August 9 so that eyes could be seen, but it then died.

It differed from eggs of *Eleutherodactylus* in being alone, and in having a less firm outer coat, so that it gave the impression of being wet and sticky rather than dry and clean.

On July 7, 1925, a female was found under the rotted butt of a fallen Bromeliad, and under a nearby similar butt was a single egg exactly like the one of the previous summer. This egg also failed to develop.

During both summers specimens were kept in terraria in an endeavor to induce them to breed. No success was had in spite of every scheme to reproduce natural conditions, even to the extent of giving them an artificial rain storm in the afternoons. However on the morning of August 19, when there was an especially fine chorus, a male and female which seemed associated were caught and placed in a dish which contained vegetable debris and a piece of the limestone rock. Next morning a single egg was found glued to the upper surface of this rock. This was exactly like the two eggs previously found in the open. I left Cuba, August 24, and was obliged to preserve the egg before development was complete or even well begun. I think there is no doubt that this egg, as well as the two previous ones, was laid by *Sminthillus*.

It seems fairly certain therefore, that *Sminthillus limbatus* is terrestrial, diurnal, and lays very few eggs at a time (apparently only one), and that these are large-yolked, laid either under vegetable debris or glued to rock, and develop directly into frogs without passing through a tadpole stage.

E. R. DUNN

Smith College,
Northampton, Mass.

THE SNAKES OF SAN DIEGO COUNTY, CALIFORNIA

Specimens Collected for the Zoological Society

Jan. 1. 1923 to Dec. 31, 1925

Showing Distribution by Months and Zones

SPECIES	MONTHLY DISTRIBUTION															ZONAL DISTRIBUTION						
	January	February	March	April	May	June	July	August	September	October	November	December	Total	Rank	Percent	Coast	Inland Valleys	Foothills	Mountains	Desert Foothills	Desert	Undetermined
Siagonodon humilis				1	7	1	1				1		11	14	.7	3	3	3	2			
Lichanura roseofusca			6	5	17	13	7	2	1	2	1	1	55	9	3.4	11	18	21		5		
Diadophis amabilis similis	3	10	12	19	22	8	8	4	8	5	3	1	103	7	6.4	84	7	7	1			4
Coluber constrictor mormon					2		2						4	17	.2		3		1			
Masticophis flagellum frenatum				2	14	11		1	2	1			32	10	2.0	21	8	1		2		
Masticophis lateralis		2	7	15	24	8	4	9	8	2	1		80	8	4.9	35	15	23	1	3		3
Salvadora grahamiae hexalepis				3	3	3	1						10	15	.6			8		1		1
Phyllorhynchus decurtatus					1								1	22	.1					1		
Arizona elegans occidentalis					1	1	1						3	19	.2	2	1					
Pituophis catenifer annectens	3	17	35	63	106	69	34	12	11	21	6	7	384	1	23.7	213	66	73	13	10		9
Lampropeltis californiae californiae		1	4	14	33	31	11	6	5	1			106	6	6.6	68	16	19	2	1		
Lampropeltis getulus boylii		2	3	10	62	42	32	13	6	4	1		175	3	10.8	92	37	31	3	5	1	6
Lampropeltis multicincta					2	6		2					10	15	.6			1	9			
Rhinocheilus lecontei			1		9	7	1	1	1			1	21	13	1.3	12	4	3				2
Sonora occipitalis	2												2	20	.1					2		
Hypsiglena ochrorhynchus		1	6	4	2	2	1	4	3	1		1	25	12	1.5	17		5		1		2
Thamnophis ordinoides hammondii	4	4	14	15	49	42	91	12	11	1	1		244	2	15.0	138	39	52	8	3		4
Tantilla eiseni						2		1	1				4	17	.2	4						
Trimorphodon vandenburghi					1								1	22	.1			1				
Crotalus cerastes						2							2	20	.1					1	1	
Crotalus exsul		3	2	36	33	20	13	17	10	15	2		151	5	9.3	77	37	30	1	4		2
Crotalus mitchellii			2	2	9	5	7	1	2				28	11	1.7		2	12	3	11		
Crotalus oreganus	1	2	15	24	41	20	31	16	3	15	1	2	171	4	10.5	77	27	31	8	12		16
TOTAL FOR THREE YEARS	13	42	107	213	438	293	245	101	73	68	17	13	1623		1000	854	283	321	52	62	2	49
PERCENT OF TOTAL	.8	12.6	6.6	13.1	27.0	18.1	15.1	6.2	4.5	4.2	1.0	.8	100			52.7	17.4	19.8	3.2	3.8	.1	3.0

L. M. KLAUBER, San Diego, Cal.